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(54) SURGICAL INSTRUMENT EQUIPMENT APPROPRIATE FOR MINI-INVASIVE SURGERY

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(56) References Cited

U.S. PATENT DOCUMENTS

5,352,219	A	10/1994	Reddy
5,441,059	A	8/1995	Dannan
6,723,043	B2	4/2004	Kleeman et al.
6,963,792	B1*	11/2005	Green A61B 1/00193
			348/E13.014
7,753,901	B2 *	7/2010	Piskun et al 604/539
8,257,254	B2*	9/2012	Piskun 600/208
(Continued)			

FOREIGN PATENT DOCUMENTS

ES 2 247 419 T3 3/2006

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(57) ABSTRACT

Equipment of surgical instruments suitable for minimally invasive surgery, comprised by a multivalve device with adjustable separator to enter the patient's body and with at least one access simultaneous port for a number of components which includes an operative surgical device comprised by a control, a movement transmission element and an operative mounting clamp of a needle plier comprised by a control, a head connecting sheath, with a connecting needle lodged in its interior and the operative head; and a cauterization device comprised by a control, a movement transmitting element and the cautery.

17 Claims, 6 Drawing Sheets

